

NEWSletter 2



December 2023

2023 was a SYNERGETICS year

SYNERGETICS – Synergies for Green Transformation of Inland and Coastal Shipping – an Innovation Action funded by the Horizon Europe programme of the EU kicked-off at DST- Development Centre for Ship Technology and Transport System in Duisburg on 8.2.2023. The project aims at bringing together relevant knowledge from different sectors, in particular the waterborne one. This will be realized by creating synergies between the leading research institutions in the field of ship hydrodynamics and energy transition, innovation centres and shipping industry associations, shipbuilding industry, regulatory bodies, vessel owners, and technology providers, as well as between different European regions.

The main goal is to create a comprehensive catalogue of developed retrofit solutions, ready for deployment, to facilitate and accelerate the green transformation of inland vessels and coastal ships. Meanwhile, the project has set course in direction of gaining new, promising knowledge.

The identification of relevant technical options for further use in SYNERGETICS will be completed this year to be followed by a techno-economic assessment, giving an indication with respect to the feasibility of implementing the solutions considered. In addition, a comprehensive and unique database of pilot projects ("the Pilot database") was created which enabled the identification of the trends in greening of inland and coastal ships. The database contains information on 185 identified pilots and has been validated by partners and stakeholders through a consultation and a workshop. Also, activities with respect to the realization of the foreseen demonstrations have started through a number of workshops organized by MARIN.

Merry Christmas and a prosperous New Year 2024!



SYNERGETICS has become a well-recognized brand. Visibility is guaranteed through the project website www.synergetics-project.eu, a great number of posts through the web and social media channels like LinkedIn, several events, e.g. the Transport Logistic 2023, the ECMAR Technology and Brokerage Event, the Waterborne Days 2023, and the Danube Ports Days, as well as publications like the contribution to the TRA 2024: "Exploration and synchronization of greening of shipping by means of retrofit: The SYNERGETICS perspective". Finally, project animations in English, German and French have been completed (see the next page).

2023 was already a good year for **SYNERGETICS**. 2024 is expected to become exciting!



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SYNERGETICS – The movie – has been released

Autumn is the season when the best films are released. It may not make the Oscar shortlist, it may not be nominated at Cannes, but the SYNERGETICS movie is out and it is making waves!

Tailored to the target audience identified in the project's exploitation and dissemination plan, the 4-minute animation introduces the project, highlighting its objectives, ambitions and desired outcomes. The link to the animation is [here](#) with subtitles in several languages.



Latest developments – The Pilot database

Within the scope of WP2 (Synchronization) a comprehensive and unique database of pilot projects (“the Pilot database”) was created which enabled the identification of the trends in greening of inland and coastal ships. The database currently contains information on 185 inland and coastal shipping greening pilots performed or planned in the period 2008–2026. The database is available for [download](#) from the SYNERGETICS website.

Using the information available for 115 inland and 50 coastal best documented pilots in the database, it is possible to establish the share of pilot projects performed or planned as a retrofit or on newbuilds, the breakdown of innovative technologies used in greening (electrification, alternative fuels, energy-efficiency measures) by types of inland vessels and coastal ships, the evolution of greening efforts with respect to time, etc. Some of the findings enabled by the database are presented in Figure 1, Figure 2 and Figure 3.

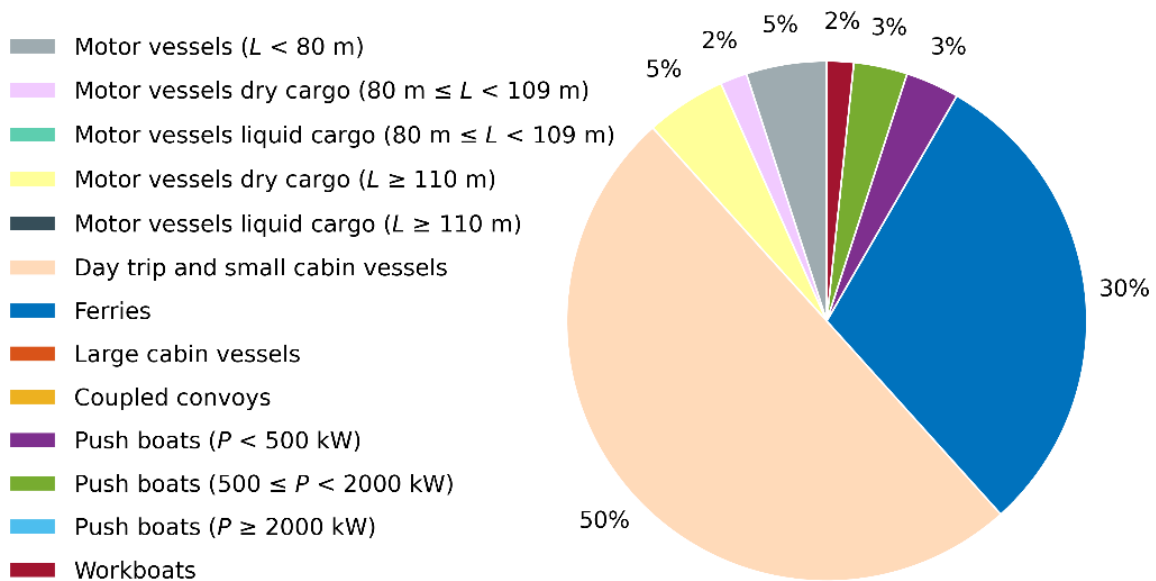


Figure 1. Electrification pilots on inland vessels; breakdown by ship type



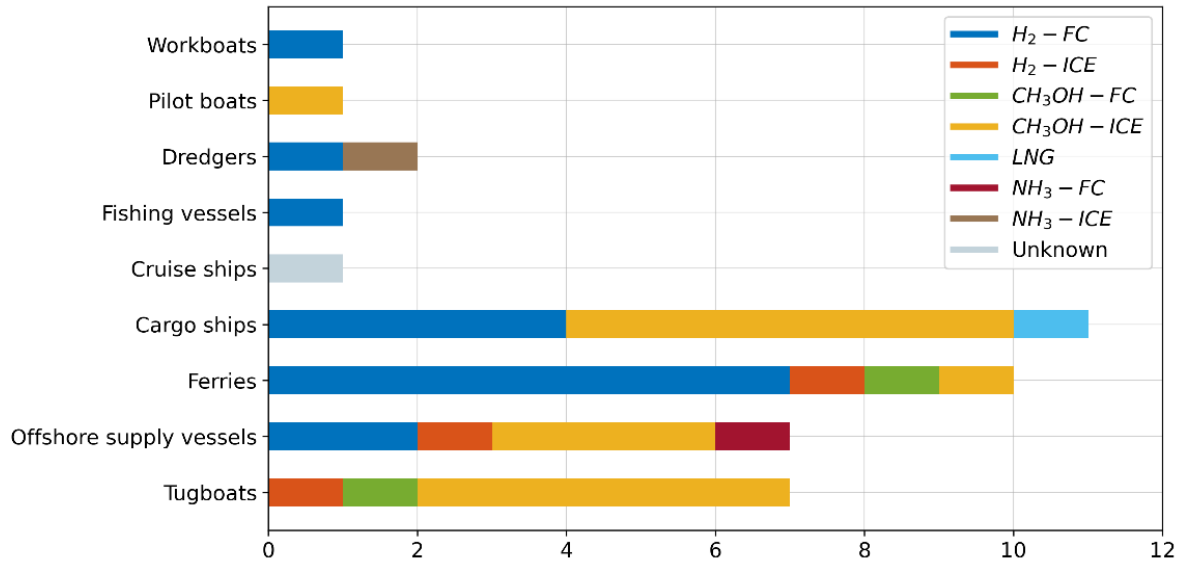


Figure 2. Alternative fuels pilots on coastal ships (hydrogen, methanol, LNG, ammonia)

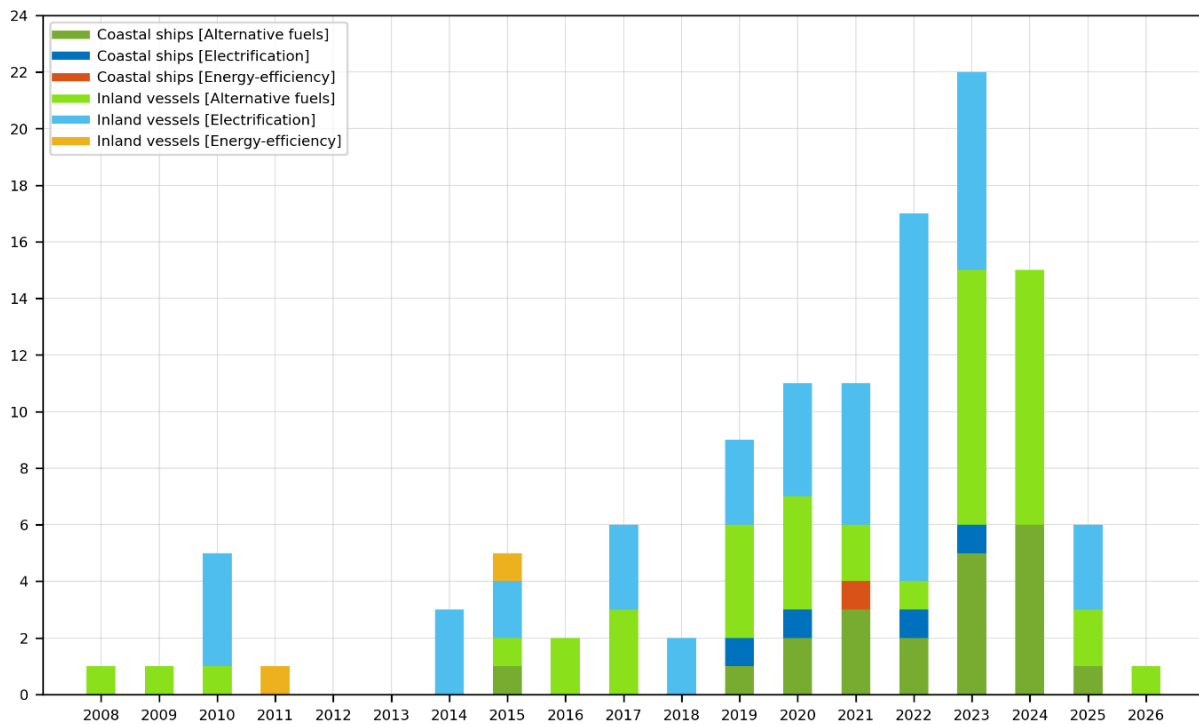


Figure 3. The evolution of the greening pilot projects in inland and coastal shipping

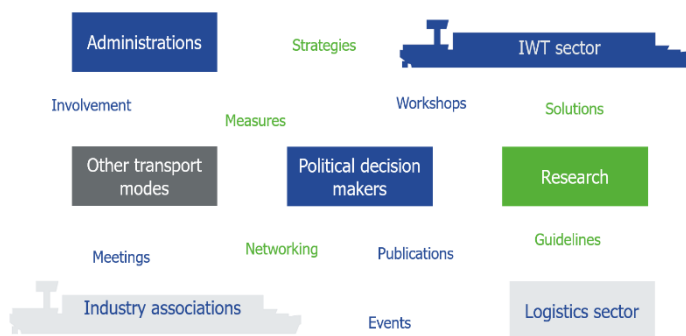
The features of the database and the possibilities for its utilization are to be presented in the paper titled "Exploration and synchronization of greening of shipping by means of retrofit: The SYNERGETICS perspective". The paper is prepared by a group of authors from the SYNERGETICS project partners DST, OST, SPB, and MARIN. The paper was submitted to the Transport Research Arena conference (TRA 2024) which will take place in Dublin in April 2024. The scope of the Pilot database will be described in detail in the SYNERGETICS Deliverable 2.1 which is due in December 2023.





Activities – Kick-off Meeting Stakeholder Involvement

The work package 6 has as mission the dissemination and exploitation of the project’s results. A key element for a successful dissemination activity is the involvement of all relevant stakeholders. For this purpose, SPB in collaboration with viadonau organized on 18th of September the kick-off meeting of the Task 6.3 Stakeholder Involvement.



The Plan for Exploitation and Dissemination of Results was presented and the terms of reference, strategy and responsibilities for stakeholder involvement were agreed. A minimum of three stakeholder workshop will be organised to cover the entire scope of the project, namely inland and coastal navigation. The outreach and relevance will be increased by focusing on specific shipping areas (e.g. Western Europe, Danube, etc.).

Activities – HSE Monitoring Workshop

As a part of the activities within the Task 3.5 of SYNERGETICS (Health, safety and environment monitoring) a workshop on health, safety, and environment (HSE) monitoring of the risks associated with utilization of hydrogen, methanol, and batteries was held on the 9th of November 2023 at DST premises in Duisburg. The workshop included the presentations by the SYNERGETICS partners Croatian Register of Shipping (on general role of classification societies in the application of novel greening technologies), Koedood Marine Group and Argo-Anleg GmbH (on risks and mitigation strategies associated with the utilization of methanol and hydrogen), as well as by the coordinator on fundamental HSE monitoring methodologies.

The Workshop also included a presentation by Dana Meißner of Institut für Schiffssicherheit who presented the research on risks and mitigation strategies related to having Li-Ion batteries onboard ships (also as a cargo).



The second part of the workshop was a brainstorming session, moderated by the WP3 leader MARIN, where HSE implications of the retrofit of SYNERGETICS demonstrators (viadonau push boat, Groupe SOGESTRAN cement carrier, and Mercurius Shipping Group chemical tankers) were discussed.

The workshop provided an input for the SYNERGETICS Deliverable 3.19 which is due in February 2024.





Events

Waterborne Days 2023

SYNERGETICS was introduced to the waterborne transport research and innovation community in the course of the Waterborne Days held in Brussels on the 26th and 27th of September 2023 and organized by the Waterborne Technology Platform.



This was also an opportunity for the first official screening of the **SYNERGETICS** animation!

The **SYNERGETICS** project partners present at the Waterborne Days had the opportunity to disseminate the project goals, receive feedback from the waterborne transport professionals, and establish new synergies with researchers, policy makers, technology providers, ship owners, etc. The participants of the Waterborne Days were particularly interested in "the Pilot database" prepared within the scope of the Synchronization activity of **SYNERGETICS** (and described in this newsletter).



BinSmart Event 2023

SYNERGETICS was presented to the German waterborne research community within the scope of the BinSmart (<https://www.binsmart.de/>) event which took place in Berlin on the 28th and 29th of November 2023. The focus of the ensuing discussion was the longevity of the **SYNERGETICS** tools beyond the project duration and the pragmatic issues related to the management of innovation actions.

Danube Ports Days 2023

Danube ports and navigation play a crucial role in inland transport and trade networks, and the Danube Ports Days 2023 provided the perfect opportunity to present the **SYNERGETICS** Innovation Action to Danube stakeholders, including high-level representatives from the European Parliament, the European Commission, international river commissions, port authorities and shipping companies. The two-day event was a joint effort of Pro Danube, **SYNERGETICS** and the EU-funded projects Green Inland Ports and MultiRELOAD. It was supported by the Danube Port Networks.



The second day of the venue focused on the **SYNERGETICS** innovation action. The project's ambitions and current status were presented by its coordinator, DST. The potential of hydrogen and methanol as marine fuels as well as the electrification of ships by means of swappable battery containers were presented by the participating project partners Argo-Anleg GmbH, ScandiNAOS AB and Zero Emission Services. The particular challenges in the introduction of alternative fuels for Danube navigation were emphasized in the presentation of the Kanzlei Anzböck. The success of the session and the high interest of the stakeholders was confirmed by the numerous questions and the lively dialogue that took place during the panel discussion. Presentations of the event can be found [here](#).





Save the date - PLATINA4Action kicks off in January 2024

A new project focussing on coordination and support actions for Inland Waterway Transport starts in 2024 and will continue until end of 2026. This PLATINA4Actionproject will be financed under the Horizon Europe programme. It will be a platform for the implementation for green and connected Inland Waterway Transport (IWT) as envisaged in the Action Plan of NAIADES III.

The platform will act as catalyst, bringing together expertise, stakeholders and research in the field of European Inland Waterway Transport. It builds on the network and expertise developed in the project PLATINA3 which was funded under Horizon 2020 and ended in June 2023.

The aim of PLATINA4Action is to:

- 1) support and coordinate research and innovation activities focussing on green and connected IWT to find synergies between parallel developments;
- 2) develop impact estimations of NAIADES III actions and supporting the policy discussions to achieve modal shift and zero-emission IWT;
- 3) update the Strategic Research and Innovation Agenda for IWT.

Seen the focus on green IWT, it complements activities of the work of SYNERGETICS. With PLATINA4Action, specific attention will be paid to addressing and supporting the zero-emission innovations and their deployment / rollout. Furthermore, PLATINA4Action will work on the development of a European emission label for vessels operating on the European inland waterways. One of the first public events will address knowledge transfer for greening the fleet. This event will be organised at the Maritime Industry Fair in Gorinchem, The Netherlands on 30th of May 2024, in cooperation with SYNERGETICS and RH2IWER projects.

The PLATINA4Action consortium consists of SPB/EICB, DST, Danube Commission, University of Antwerp, viadonau, Waterborne TP and IWT Platform. PLATINA4Action will work closely together with European Commission DG MOVE in view of the NAIADES Implementation Expert Group and DINA Expert Group. Furthermore, the consortium will involve and interact with IWT and logistic representatives and platforms, river commissions, ports and waterway managers, Member States and research institutes.

Save the date of 30 May 2024! More information will be available soon on the PLATINA4Action project website and on LinkedIn.





Coordinator:

DST – Entwicklungszentrum für Schiffstechnik und Transportsysteme e. V. (DE)

Partners:

SPB – Stichting Projecten Binnenvaart (NL)
Scandinaos AB (SE)
MARIN – Maritime Research Institute Netherlands (NL)
viadonau – Österreichische Wasserstraßen-GmbH (AT)
TTS – Transport Trade Services GmbH (AT)
ZT Büro Anzböck Richard (AT)
EUFRAK – Euroconsults Berlin GmbH (DE)
CRS – Hrvatski Registar Brodova (HR)
OST – Ostschweizer Fachhochschule (CH)

Argo-Anleg GmbH (DE)
FPS – Future Proof Shipping (NL)
Mercurius Shipbuilding BV (NL)
ZES – Zero Emission Services (NL)
Compagnie Fluviale de Transport (FR)
Sogestran (FR)
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